SPACE OPERATIONS CONTROL CENTER

SATELLITE SITUATION REPORT

VOLUME 4, NO. 1

JANUARY 15, 1964

GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.

SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 4 NO. 1 JANUARY 15, 1964

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHSICAL OBSERVATORY AS OF 1200Z ON JANUARY 15, 1964.

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ(MC/S)
1958 LAUNCHES								
ALPHA 1	EXPLORER 1	US	1 FEB	104.7	33.19	1629	342	
BETA 1	ROCKET BODY	US	17 MAR	138.3	34.26	4325	652	
BETA 2	VANGUARD 1	US	17 MAR	133.8	34.33	3925	661	108.012 &
1959 LAUNCHES								
ALPHA 1	VANGUARD 2	US	17 FEB	125.3	32.86	3307	537	
ALPHA 2	ROCKET BODY	US	17 FEB	129.6	32.94	3647	573	
ETA 1	VANGUARD 3	US	18 SEP	129.7	33.33	3720	513	
MU 1*	LUNIK 1	USSR	2 JAN	450 D	0.01	1.315AU	0.9766AU	
NU 1*	PIONEER 4	US	3 MAR	398 D	1.30	1.142AU	0.9871AU	
IOTA 1	EXPLORER 7	US	13 OCT	101.1	50.33	1075	551	
IOTA 2	ROCKET BODY	US	13 OCT	100.9	50.32	1047	559	
1960 LAUNCHES								
ALPHA 1*	PIONEER 5	US	11 MAR	312 D	3.35	0.995AU	0.8061AU	
BETA 1	ROCKET BODY	US	1 APR	99.0	48.39	736	697	
BETA 2	TIROS 1	US	1 APR	99.1	48.38	747	693	
BETA 3	NONE	US	1 APR	97.8	48.48	705	610	
BETA 4	NONE	US	1 APR	99.8	48.15	803	704	
GAMMA 2	TRANSIT 1B	US	13 APR	94.0	51.29	600	346	
GAMMA 4	NONE	US	13 APR	96.7	51.24	720	487	
EPSILON 3	NONE	USSR	15 MAY	91.6	64.98	448	255	
ZETA 1	MIDAS 2	US	24 MAY	94.2	33.04	491	480	
ETA 1	TRANSIT 2A	US	22 JUN	101.6	66.68	1058	613	
ETA 2	GREB	US	22 JUN	101.6	66.68	1053	615	
ETA 3	ROCKET BODY	US	22 JUN	101.4	66.65	1035	614	

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES (CONT'D)								
IOTA 1	ECHO 1	US	12 AUG	114.7	47.28	1652	1238	
IOTA 2	ROCKET BODY	US	12 AUG	118.0	47.25	1696	1492	
IOTA 3	METAL OBJECT	US	12 AUG	118.2	47.24	1691	1512	
IOTA 4	METAL OBJECT	US	12 AUG	INSUFFICIENT OBSERVATIONS				
IOTA 5	METAL OBJECT	US	12 AUG	118.3	47.28	1689	1531	
NU 1	COURIER 1B	US	4 OCT	106.8	28.35	1225	953	
NU 2	ROCKET BODY	US	4 OCT	106.4	28.26	1194	941	
XI 1	EXPLORER 8	US	3 NOV	112.3	49.97	2257	412	
XI 2	ROCKET BODY	US	3 NOV	111.9	49.93	2228	404	
XI 3	NONE	US	3 NOV	109.4	49.39	1998	407	
XI 4	NONE	US	3 NOV	110.7	50.50	2095	426	
PI 1	TIROS 2	US	23 NOV	98.2	48.53	748	601	
PI 2	ROCKET BODY	US	23 NOV	98.0	48.51	729	608	
PI 3	NONE	US	23 NOV	98.1	48.53	727	615	
PI 4	NONE	US	23 NOV	98.2	48.50	713	624	
1961 LAUNCHES								
ALPHA 1	SAMOS 2	US	31 JAN	94.8	97.42	544	466	
ALPHA 2	METAL OBJECT	US	31 JAN	94.7	97.42	540	464	
GAMMA 1*	VENUS PROBE	USSR	12 FEB	300 D	0.58	1.019AU	0.7183AU	
DELTA 1	EXPLORER 9	US	16 FEB	109.5	38.97	2062	362	
DELTA 2	ROCKET BODY	US	16 FEB	118.4	38.84	2597	632	
DELTA 3	NONE	US	16 FEB	INSUFFICIENT OBSERVATIONS				
KAPPA 1	EXPLORER 10	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	US	27 APR	107.8	28.71	1794	471	
OMICRON 1	TRANSIT 4A	US	29 JUN	103.8	66.82	995	883	105;400
OMICRON 2	INJUN-SR-3	US	29 JUN	103.8	66.79	990	889	
OMICRON 3-206**	METAL OBJECTS	US	29 JUN					
RHO 1	TIROS 3	US	12 JUL	100.3	47.88	818	738	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1961 LAUNCHES (CONT'D)								
RHO 2	ROCKET BODY	US	12 JUL	100.3	47.90	799	751	
RHO 3	METAL OBJECT	US	12 JUL	98.8	47.93	798	610	
RHO 4	METAL OBJECT	US	12 JUL	101.9	47.84	941	766	
SIGMA 1	MIDAS 3	US	12 JUL	161.5	91.20	3582	3307	
SIGMA 3	METAL OBJECT	US	12 JUL	161.2	91.22	3559	3302	
SIGMA 4	METAL OBJECT	US	12 JUL	161.9	91.19	3572	3350	
UPSILON 1	EXPLORER 12	US	16 AUG	INSUFFICIENT OBSERVATIONS				
A DELTA 1	MIDAS 4	US	21 OCT	166.0	95.88	3755	3496	
A DELTA 3	METAL OBJECT	US	21 OCT	165.6	96.78	3714	3505	
A DELTA 4	METAL OBJECT	US	21 OCT	166.4	95.86	3782	3499	
A ETA 1	TRANSIT 4B	US	15 NOV	105.6	32.44	1117	945	
A ETA 2	TRAAC	US	15 NOV	105.6	32.43	1103	960	
A ETA 3	ROCKET BODY	US	15 NOV	105.5	32.45	1114	935	
1962 LAUNCHES								
ALPHA 1*	RANGER 3	US	26 JUN	406.4D	.3988	1.163AU	0.9839AU	
ALPHA 2	ROCKET BODY	US	26 JAN	INSUFFICIENT OBSERVATIONS				
BETA 1	TIROS 4	US	8 FEB	100.3	48.32	853	699	
BETA 2	ROCKET BODY	US	8 FEB	101.3	48.14	936	710	
BETA 3	METAL OBJECT	US	8 FEB	99.4	48.40	768	699	
BETA 4	METAL OBJECT	US	8 FEB	100.2	48.27	836	710	
ZETA 1	ORB.SOL.OBS.1	US	7 MAR	95.9	32.83	589	549	
ZETA 2	ROCKET BODY	US	7 MAR	95.9	32.82	589	550	
KAPPA 1		US	9 APR	153.0	86.60	3432	2761	
KAPPA 3		US	9 APR	152.7	86.59	3366	2798	
KAPPA 4		US	9 APR	153.4	86.65	3425	2798	
MU 2	ROCKET BODY	US	23 APR	INSUFFICIENT OBSERVATIONS				
OMICRON 1	ARIEL	US/UK	26 APR	100.6	53.86	1178	396	136.406
OMICRON 2	ROCKET BODY	US/UK	26 APR	100.5	53.88	1169	398	

OBJECTS IN OBBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)								
A ALPHA 1	TIROS 5	US	19 JUN	100.4	58.07	976	586	
A ALPHA 2	ROCKET BODY	US	19 JUN	100.4	58.09	972	582	
A ALPHA 3	METAL OBJECT	US	19 JUN	101.7	58.19	1093	590	
A ALPHA 4	METAL OBJECT	US	19 JUN	99.1	57.99	865	566	
A EPSILON 1	TELSTAR 1	US	10 JUL	157.6	44.80	5635	945	
A EPSILON 2	ROCKET BODY	US	10 JUL	157.5	44.79	5627	945	
A OMICRON 1		US	23 AUG	99.6	98.68	855	617	
A OMICRON 2		US	23 AUG	98.3	98.68	759	592	
A OMICRON 3		US	23 AUG	100.9	98.66	962	631	
A OMICRON 4		US	23 AUG	99.6	98.68	846	625	
A RHO 1*	MARINER	US	27 AUG	COMPUTATIONS IN PROGRESS				
A RHO 2*	ROCKET BODY	US	27 AUG	COMPUTATIONS IN PROGRESS				
A UPSILON 1		US	1 SEP	92.3	82.79	494	276	
A PSI 1	TIROS 6	US	18 SEP	98.7	58.32	716	680	
A PSI 2	ROCKET BODY	US	18 SEP	98.6	58.28	711	679	
A PSI 3	METAL OBJECT	US	18 SEP	99.4	58.44	756	702	
A PSI 4	METAL OBJECT	US	18 SEP	98.0	58.22	683	646	
B ALPHA 1	ALOUETTE	CANADA	29 SEP	105.5	80.49	1037	996	136.979; $136.593 $136.077
B ALPHA 2	ROCKET BODY	US	29 SEP	105.5	80.47	1033	995	
B ALPHA 3	METAL OBJECT	US	29 SEP	105.4	80.48	1032	990	
B ALPHA 4	METAL OBJECT	US	29 SEP	105.5	80.41	1031	1002	
B GAMMA 1	EXPLORER 14	US	2 OCT	2184.5	42.30	96226	2558	136.440
B GAMMA 2	ROCKET BODY	US	2 OCT	INSUFFICIENT OBSERVATIONS				
B ETA 1*	RANGER 5	US	18 OCT	366 D	.39011	1.052AU	.9490AU	
B ETA 2*	ROCKET BODY	US	18 OCT	COMPUTATIONS IN PROGRESS				
B THETA 1		USSR	20 OCT	91.9	48.98	513	230	
B KAPPA 1		US	26 OCT	137.8	71.39	4712	201	
B LAMBDA 1	EXPLORER 15	US	27 OCT	313.9	18.04	17536	333	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)								
B LAMBDA 2	ROCKET BODY	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	US	31 OCT	107.8	50.14	1172	1088	162;324
B MU 2	ROCKET BODY	US	31 OCT	107.5	50.14	1164	1068	
B NU 3*		USSR	1 NOV	519 D	2.683	1.604AU	9237AU	
B TAU 1		US	13 DEC	111.8	70.33	2385	231	
B TAU 2	INJUN3	US	13 DEC	113.8	70.33	2566	236	
B TAU 4		US	13 DEC	109.5	70.33	2176	232	
B TAU 5		US	13 DEC	111.7	70.33	2374	233	
B TAU 6		US	13 DEC	113.3	70.33	2521	236	
B UPSILON 1	RELAY 1	US	13 DEC	185.0	47.53	7430	1331	136.140;$136.620
B UPSILON 2	ROCKET BODY	US	13 DEC	184.7	47.72	7301	1434	
B CHI 1	EXPLORER 16	US	16 DEC	104.3	52.05	1194	736	
B PSI 1	TRANSIT 5A	US	19 DEC	99.1	90.62	743	686	
B PSI 2		US	19 DEC	97.8	90.75	716	587	
B PSI 3		US	19 DEC	99.1	90.63	732	697	
B PSI 4		US	19 DEC	100.3	90.48	838	699	
1963 LAUNCHES								
1963 3A		US	16 JUN	94.6	81.89	525	465	
1963 4A	SYNCOM	US	14 FEB	INSUFFICIENT OBSERVATIONS				
1963 4B	ROCKET BODY	US	14 FEB	INSUFFICIENT OBSERVATIONS				
1963 5A		US	19 FEB	97.8	100.50	796	501	
1963 5B		US	19 FEB	97.8	100.50	810	488	
1963 5C		US	19 FEB	97.0	100.49	759	465	
1963 5D		US	19 FEB	98.4	100.49	838	523	
1963 8B		USSR	2 APR	COMPUTATIONS IN PROGRESS				
1963 9A	EXPLORER 17	US	3 APR	95.5	57.62	833	253	
1963 13A	TELSTAR 2	US	7 MAY	225.2	42.76	10810	962	136.049

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES(CONT'D)								
1963 13B	ROCKET BODY	US	7 MAY	224.9	42.74	10787	968	
1963 14A		US	9 MAY	166.5	87.43	3653	3636	
1963 14B		US	9 MAY	166.5	87.35	3673	3618	
1963 14C		US	9 MAY	166.5	87.34	3683	3608	
1963 14E		US	9 MAY	166.1	87.47	3669	3591	
1963 14F		US	9 MAY	166.9	87.42	3672	3648	
1963 14G		US	9 MAY	166.3	87.33	3639	3638	
1963 14H		US	9 MAY	166.5	87.42	3704	3588	
1963 17A		USSR	22 MAY	93.6	48.98	659	251	
1963 17C		USSR	22 MAY	94.9	49.19	698	340	
1963 17G		USSR	22 MAY	91.7	49.01	480	240	
1963 22A		US	16 JUN	99.8	90.01	765	723	150;400
1963 22B		US	16 JUN	99.8	90.00	768	719	
1963 22C		US	16 JUN	101.3	90.20	904	729	
1963 22D		US	16 JUN	98.2	89.83	785	556	
1963 24A	TIROS 7	US	19 JUN	97.4	58.23	639	633	136.234;136.922
1963 24B	ROCKET BODY	US	19 JUN	97.3	58.23	638	627	
1963 24C	METAL OBJECT	US	19 JUN	97.9	58.37	663	652	
1963 24D	METAL OBJECT	US	19 JUN	96.9	58.09	638	582	
1963 25B		US	27 JUN	132.5	82.13	4117	337	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	US	28 JUN	102.0	49.75	1290	426	
1963 27A		US	29 JUN	94.8	82.32	528	481	
1963 27B		US	29 JUN	94.1	82.31	481	462	
1963 30 A		US	19 JUL	167.9	88.35	3752	3651	
1963 30B		US	19 JUL	167.9	88.41	3730	3673	136.891
1963 30C		US	19 JUL	167.5	88.31	3719	3656	
1963 30D		US	19 JUL	168.0	88.60	3927	3486	
1963 30E		US	19 JUL	168.3	88.52	3763	3674	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 31A	SYNCOM 2	US	26 JUL	1436.2	32.88	35794	35786	$136.980; $136.468 $1814.069; $1815.794 &1820.177
1963 31B	ROCKET BODY	US	26 JUL	INSUFFICIENT OBSERVATIONS				
1963 33A		USSR	6 AUG	90.8	49.03	385	247	
1963 38A		US	28 SEP	107.1	89.91	1120	1063	
1963 38B		US	28 SEP	107.4	89.90	1134	1074	
1963 38C		US	28 SEP	107.4	89.90	1133	1074	136.651
1963 38D		US	28 SEP	107.4	89.93	1138	1069	
1963 39A		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 39B		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 39C		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 42A		US	29 OCT	88.8	89.90	213	213	
1963 42B		US	29 OCT	93.1	89.97	565	283	
1963 43A	POLYOT 1	USSR	1 NOV	102.4	58.90	1406	340	
1963 43B		USSR	1 NOV	102.1	58.62	1381	336	
1963 43C		USSR	1 NOV	100.4	58.94	1256	304	
1963 43D		USSR	1 NOV	101.6	59.81	1339	334	
1963 46A	EXPLORER 18	US	27 NOV	5585.	33.35	195572	194	136.110
1963 47A	CENTAUR 2	US	27 NOV	107.6	30.39	1766	484	
1963 47B		US	27 NOV	107.1	30.08	1615	584	
1963 47C		US	27 NOV	107.3	30.07	1637	584	
1963 47D		US	27 NOV	107.8	29.94	1633	637	
1963 47E		US	27 NOV	108.2	30.47	1746	556	
1963 47F		US	27 NOV	108.5	30.47	1753	574	
1963 47G		US	27 NOV	107.6	30.00	1646	605	
1963 49A		US	5 DEC	106.9	89.98	1080	1076	
1963 49B		US	5 DEC	107.2	89.97	1124	1063	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LUANCHES (CONT'D)								
1963 49C		US	5 DEC	107.2	89.97	1118	1068	
1963 49D		US	5 DEC	107.1	89.97	1116	1065	
1963 49E		US	5 DEC	107.2	90.01	1127	1059	
1963 50A	COSMOS 23	USSR	13 DEC	92.1	48.96	527	237	
1963 50B		USSR	13 DEC	91.9	49.00	513	228	
1963 52B		USSR	19 DEC	89.3	65.01	288	192	
1963 53A	EXPLORER 19	US	19 DEC	115.9	78.60	2387	601	136.621
1963 53B		US	19 DEC	115.8	78.61	2393	590	
1963 53C		US	19 DEC	116.0	78.62	2400	597	
1963 53D		US	19 DEC	116.0	78.59	2398	596	
1963 53E		US	19 DEC	115.9	78.57	2399	592	
1963 53F		US	19 DEC	115.9	78.62	2397	592	
1963 53G		US	19 DEC	115.9	78.58	2395	592	
1963 54A	TIROS 8	US	21 DEC	99.3	58.47	761	695	136.233;136.922
1963 54B		US	21 DEC	99.3	58.49	753	697	
1963 54C		US	21 DEC	101.0	58.45	928	691	
1963 55B		US	21 DEC	91.6	64.52	393	315	
1964 LAUNCHES								
1964 1A		US	11 JAN	103.5	69.92	937	906	
1964 1B	GGSE	US	11 JAN	103.5	69.96	941	902	136.319
1964 1C	EGRS	US	11 JAN	103.5	69.90	937	906	136.803
1964 1D	SOLAR RADIATION	US	11 JAN	103.5	69.89	937	906	136.880
1964 1E		US	11 JAN	103.5	69.88	951	893	

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

** TWO HUNDRED AND FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 AND 1961 OMIRCON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LISTS.

$ TRANSMITTING ON COMMAND ONLY.

& TRANSMITTING WHEN IN SUNLIGHT ONLY.

PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1963 3C		US	16 JAN	31 DEC 63
1963 50C		USSR	13 DEC	3 JAN 64
1963 50D		USSR	13 DEC	1 JAN 64
1963 55A		US	21 DEC	9 JAN 64